

DD/S&T 526-84

14 July 1984

MEMORANDUM FOR: Executive Director

FROM: James V. Hirsch  
Associate Deputy Director for Science and Technology

SUBJECT: Policy on Information Systems

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1. Regarding the list of policy elements you gave me:

-- The list presupposes we have a set of ADP objectives which speak to the important information handling/processing problems of the Agency. We do not. For example, we have no position on providing software support for sophisticated user generated applications programs; for assuring interaccessibility of proliferating data base systems and their associated analysis packages; on the nature of our central computation facility and its range of services; and on how large software systems are to be developed. Our information systems policy should be driven by a set of well understood objectives.

-- The list is a mixture of top level policy elements and derivative policy elements dealing with implementation. For example, each directorate being responsible for its own systems is top level; limiting the number of vendors is derivative.

-- The list implies that those who would implement or adhere to the policy have the necessary tools to do that. If, for example, it is policy to make provision for broad access to information systems beyond those who have built them, then acceptable means for doing that without impossibly burdening the builder must be identified. Sharing information outside the building is another example of a policy element without the operative means to implement it.

2. Notwithstanding these comments, I believe the basic idea embodied in the list of policy elements is a good one. That is, we know enough about our information processing business to frame a decent Agency policy for the effective development of future systems. There are four basic kinds of systems we must deal with:

-- ADP Service Systems: By this is meant central computing facilities and the software services so provided, such as payroll and the like. Also included in this category is the question of supercomputing within the Agency.

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-- ADP Based Programs: These comprise hardware and software developments for special purposes. BIOSTAR, SAFE, FBIS Modernization, NPIC Upgrade, and CRAFT are examples.

-- Large Software System Developments: By this is meant software systems using hundreds of thousands to several million lines of code. CAMS, COINS, and AIRES are examples.

-- Individual Project Applications: This category covers the plethora of not so simple data bases and associated analysis software showing up in the FY-86 Program. Such systems are being driven by analytic processes or new collection methods. [redacted] are but two examples of this type of system. These information systems will greatly proliferate in the next five years.

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3. It appears to me that we can readily develop a coherent policy on the first three of these. I say that because we have had a great deal of experience with them and they represent pretty much stand-alone systems. The ADP services category involves many different users, but they are not necessarily interactive or interoperable. The fourth category is a different story. We will invest vast amounts of resources in algorithms and applications programs for very specific purposes over the next 10 years. Expert systems fall into this category for example. Getting maximum Agency benefit from such systems will not be easy. It is only natural and indeed desirable that [redacted] and say BIOSTAR files be accessible to a qualified user. That will probably not happen on the course we are now on. It is in this category that we probably will have to do the most spadework prior to evolving a useful policy statement.

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4. A few years ago I participated in several DoD studies aimed at implementing national policies. NSDD-59 which spawned the Nuclear Weapons Employment and Acquisition Master Plan (NWEAMP, or later in the game NWMP) is a good example. The end result of more than three years of study and analysis was that we were not sure we could build or afford the intelligence collection systems needed for fighting an extended general nuclear war. Writing policy is easy; implementing it is another matter. I think the time is right to begin building an Agency ADP policy, but we should make sure we take into account the prerequisites for implementing it before we write it.

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[redacted]

James V. Hirsch

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